Nota lepid. 16 (2) : 139-144 ; 30.XI.1993 ISSN 0342-7536

Lithophane hepatica (Clerck, 1759) — a valid combination (Lepidoptera : Noctuidae)

Kauri Mikkola

Finnish Museum of Natural History, P.O. Box 17, FIN-00014 University of Helsinki, Finland

Summary

Lithophane hepatica (Clerck, 1759) is a valid combination. The *Polia* species sometimes called by the same Clerck name is now *Polia trimaculosa* (Esper, 1788) (= *tincta* (Brahm, 1790)). *Phalaena tricomma* Hufnagel, 1766 is interpreted to be a nomen dubium. The original model painting and the lectotype of *Phalaena hepatica* Clerck are illustrated in colour.

Résumé

Lithophane hepatica (Clerck, 1759) est une combinaison valide. L'espèce de *Polia* qui est parfois citée avec le même nom de Clerck, se nomme maintenant *Polia trimaculosa* (Esper, 1788) (= *tincta* (Brahm, 1790)). *Phalaena tricomma* Hufnagel, 1766 est interpreté comme nomen dubium. L'aquarelle d'origine et le lectotype de *Phalaena hepatica* Clerck sont illustrés en couleurs.

Zusammenfassung

Lithophane hepatica (Clerck, 1759) ist eine gültige Kombination. Die *Polia*-Art, welche manchmal mit gleichem Namen von Clerck genannt wird, heisst jetzt *Polia trimaculosa* (Esper, 1788) (= *tincta* (Brahm, 1790)). *Phalaena tricomma* Hufnagel, 1766 wird als nomen dubium betrachtet. Die Original-Aquarell-Vorlage und der Lectotypus von *Phalaena hepatica* Clerck sind in Farbe abgebildet.

The illustration by Clerck (1759 : Pl. 8, Fig. 3) of his *Phalaena hepatica* has caused much confusion because of its strong greenish blue colour. At times the name has been attributed to the species of *Polia*, which was earlier called P. *tincta* (Brahm, 1790), but which is now known as *P. trimaculosa* (Esper, 1788).

Already Hübner (1803, 1805) illustrated the *Polia* species as "*hepatica*", although his description and vernacular name did not agree with the illustration. Hoffmeyer used *hepatica* for the *Polia* species in the 1930s

(see Hoffmeyer, 1962). Heydemann (1944) mentioned that Clerck's *hepatica* is the oldest record of the *Polia* species, but he did not use the name. Boursin (1964) adopted the name in his list of the noctuids of France and Belgium.

Mikkola (1985 : Fig. 2A) found a syntype of *hepatica* in the Clerck collection which is deposited in the Naturhistoriska Riksmuseet, Stockholm ; the syntype was consequently designated as lectotype. The lectotype is what was earlier known as *Lithophane socia* (Hufnagel, 1766). Thus, the Clerck name was moved to the combination *Lithophane hepatica* (Clerck, 1759).

The Clerck collection is unique in being in the almost original condition of the mid-1700s ; only in the late 1700s did P. J. Bergius make "several additions" (see Persson, 1978). The added specimens were mostly or exclusively exotic ; they are accordingly labelled and are now mainly found in the last few drawers of the collection. The specimen of *Phalaena hepatica* remains in the collection, like other Clerck types, between rows of ornamented labels carrying Linnaean names (cf. Mikkola, 1985 : Fig. 1). On the pin it has an original simple "*hepatica*" label in Clerck's handwriting. The pin and the preparation also point to Clerck, differing for instance from Linnaean specimens.

Mikkola (1985) proposed to reinstate *Polia tincta* (Brahm). However, British workers found a senior subjective synonym for *tincta, P. trimaculosa* (Esper, 1788) (e.g. Bradley & Fletcher, 1986). Both the illustration and description by Esper prove the identity of this name.

A still older Hufnagel name may refer to the *Polia* species, *Phalaena tricomma* (Hufnagel, 1766 : 408). Werneburg (1864 : 219) presented *tricomma* as a probable synonym of *tincta* but noted that „the very short diagnosis of Hufnagel does not permit certain determination" (translated from the German). True, the description does not reveal any diagnostic characters of *P. trimaculosa*. That some early authors, according to Werneburg (1864), associated *tricomma* with *tincta* may have been based solely on the fact that the vernacular names were formed from the same word, „Leber" (liver), by Hübner (1805) for *hepatica* and by Hufnagel (1766) for *tricomma*. The name *tricomma* Hufnagel is here interpreted as a nomen dubium.

Recently, Fibiger & Hacker (1991 : 68), and following them, Skou (1991), moved the name *hepatica* back to the *Polia* species. This was done in the conviction that the illustration represents a species other than the *Lithophane*, and the lectotype designation was therefore believed to be invalid.

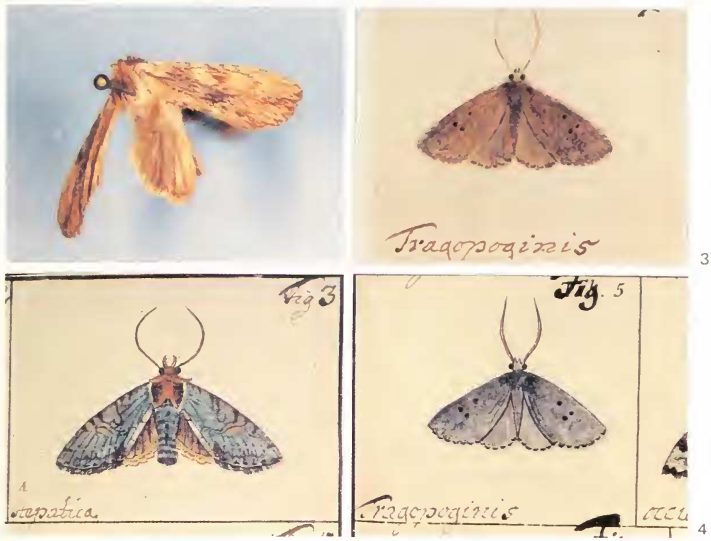

Fig. 1. The lectotype of *Phalaena hepatica* Clerck (for the label, see Mikkola 1985 : Fig. 2). Naturhistoriska Riksmuseet, Stockholm.
Fig. 2. A detail from the original model for Plate 8 in Carl Clerck's 1759 book "Icones Insectorum rariorum", Fig. 3, *Phalaena hepatica*. The costal spots and the median fascia are clearly weaker than in the book, cf. Mikkola 1985 : Fig. 3. The Library of the Royal Swedish Academy of Sciences, Stockholm.
Fig. 3. An early version of *Phalaena tragopoginis* Clerck, probably drawn and painted by Carl Clerck himself. The Library of the Royal Swedish Academy of Sciences, Stockholm.
Fig. 4. A later version of *Phalaena tragopoginis* in which the colour has turned bluish-grey, and the line drawing is much rougher. This has clearly not been produced by the same artist that painted the example in Fig. 3. The Library of the Royal Swedish Academy of Sciences. All photographs : K. Mikkola.

Many details indicate that the Clerck drawing was made from the *Lithophane* species, probably from the lectotype (cf. Figs 1, 2 and Mikkola, 1985 : Fig. 2). This is seen, for instance, from the oblique orbicular spot, the obscure reniform spot, the absence of the claviform spot, the postmedial line being solely composed of a double row of black spots, the subterminal line being weak and crenate, and the marginal field showing an alternation of darker and lighter spots. The shape and ornamentation of the thorax as well as the black tufts of

the abdomen also point to the *Lithophane*. Actually, the line drawing does not show any of the most typical characters of *P. trimaculosa* : in this species the maculation consists of three parts (as noted by the Esper name), of which the orbicular spot is roundish, and the subterminal line is typically undulating with two thicker black crests. In addition, in the painting, the bluish coloration is not restricted to the wing base as in *P. trimaculosa*. In the basal part of the forewing only three black veins have been drawn, without the shading, but otherwise correctly ; in *P. trimaculosa*, these veins are not visible. The double line between the ordinary spots is wrongly drawn : its hind part is well visible in the lectotype and is a part of the postmedial line (Fig. 1).

Unfortunately, Fibiger & Hacker's (1991) analysis of the wing markings is very subjective and they even claim that *L. hepatica* "never has crosslines". All normally coloured specimens have at least three crosslines visible, the antemedial, postmedial and subterminal lines.

A new fact about the mysterious bluish coloration of the Clerck paintings emerged from the Library of the Royal Swedish Academy of Sciences in Stockholm where the correspondence and the original paintings of Clerck are preserved. As Mikkola (1985) pointed out, Clerck's (1759 : pl. 1, fig. 5) *Phalaena tragopoginis* is bluish, too. However, in the first version of the plate the species is brown, and the moth turns bluish-grey in a later version (Figs 3 & 4). One of the two assistant painters of Clerck probably made this erroneous change, and possibly the same person made a similar change with *Ph. hepatica*. Actually, the specific name, which denoted a certain hue of brown in the classical Latin, and later on in many other languages, for instance "leberbraun" (not bluish as Fibiger & Hacker, 1991, try to prove), shows that the moth named was brown. Fibiger & Hacker (1991) rely on the word "glaucescens" (bluish grey) used by Linnaeus (1761, 1767) in his diagnosis of *Ph. hepatica* Clerck, but they did not know that Linnaeus often accommodated his descriptions to fit the illustrations of Clerck (Mikkola, 1985 : 122, cf. Mikkola & Honey, 1993 : 138, 144) ; thus, Linnaeus refers to the same confusing painting which has misled Fibiger and Hacker.

In the original model for the plates, found in the Library of the Academy (Fig. 2, cf. Mikkola, 1985 : Fig. 2B), *Ph. hepatica* has much weaker costal spots and median fascia than in the plate of the book (both were referred to by Fibiger & Hacker as characters speaking against the *Lithophane*) as well as a less contrasting coloration. Baron Ahlströmer, who acted as a kind of referee, lists *Ph. hepatica* as a

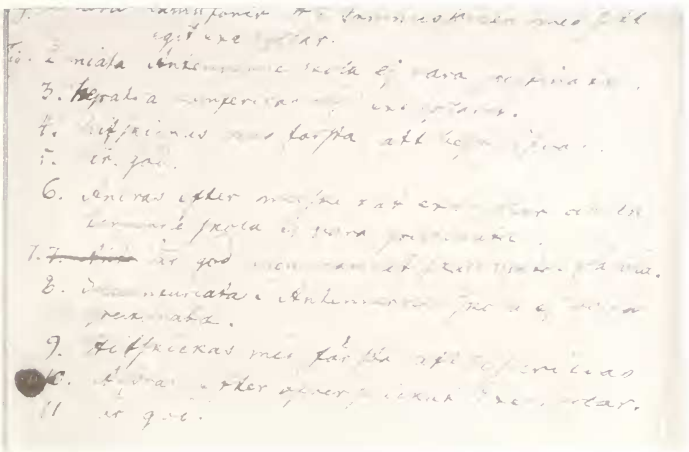

Fig. 5. A detail from a letter sent by Baron Ahlströmer to Carl Clerck, or possibly to the editors of "Icones Insectorum rariorum". Most notes concern structure of antennae ; item 3 states (in Swedish) "hepatica comfereras med exemplaret" [hepatica must be compared with the specimen]. The Library of the Royal Swedish Academy of Sciences.

species for which the drawing must still be compared with the specimen (Fig. 5). Thus, already a contemporary lepidopterologist expressed suspicions about the painting !

Whatever the truth about the Clerck painting, it is strongly emphasised that the difference of opinion regarding its identity does not constitute the kind of objection against the syntype that is meant in Article 74a(v) of the ICZN. In fact, in this case the lectotype proves the identity of the poor drawing. The valid lectotype designation can be suppressed only by the International Commission on Zoological Nomenclature.

Thus, I would urge everybody using scientific names for these taxa to note the following synonymies :

Lithophane hepatica (Clerck, 1759)
= *Lithophane socia* (Hufnagel, 1766)

Polia trimaculosa (Esper, 1788)
= *Polia tincta* (Brahm, 1790)
= *Polia hepatica* auct. nec Clerck

Acknowledgements

I thank Naturhistoriska Riksmuseet and the Library of the Royal Swedish Academy of Sciences for kind assistance, and for permits to photograph and publish Clerck material, Mr. Michael Fibiger and Dr. Hans Silfverberg for suggestions regarding the manuscript, Mr. Martin Honey and Mr. Erik von Mentzer for notes about the name *tricomma*, and Mr. Arne Moberg for assistance in the investigation of the original Clerck material.

References

Boursin, Ch., 1964. Les Noctuidae Trifinae de France et de Belgique. *Bull. mens. Soc. linn. Lyon* 33 : 204-240.

Bradley, J. D. & Fletcher, D. S., 1986. An indexed list of British butterflies and moths. vi + 119 pp. Orpington.

Clerck, C. A., 1759-1764. Icones Insectorum rariorum. (XXII) + (III) pp. + 55 pls. Holmiae.

Fibiger, M. & Hacker, H., 1991. Systematic List of the Noctuidae of Europe. *Esperiana* 2 : 1-109.

Heydemann, F., 1944. Zur Kenntnis der Gattung *Aplecta* Guen. und zweier Dualspecies in derselben (Lep. Noct.). *Stettin. ent. Ztg.* 105 : 11-34.

Hoffmeyer, S., 1962. De danske ugler. 2nd ed. 387 pp., 33 pls. Aarhus.

Hufnagel, (no initials given), 1766. Fortsetzung der Tabelle von den Nachtvogeln. IV. *Berlinisches Magazin* 3 : 393-426.

Hübner, J., 1796-(1838). Sammlung europäischer Schmetterlinge. 1-7. 1944 pp. + plates. Augsburg.

Linnaeus, C., 1761. Fauna Svecica. 2nd ed. 578 pp. Holmiae.

Linnaeus, C., 1767. Systema Naturae. 1(2). 12th ed. pp. 533-1327.

Mikkola, K., 1985. The Geometroidea and Noctuoidea described by Clerck (Lepidoptera). *Ent. scand.* 16 : 121-129.

Mikkola, K. & Honey, M. R., 1993. The Noctuoidea (Lepidoptera) described by Linnaeus. *Zool. J. Linn. Soc.*, London 108 : 103-169.

Persson, P. I., 1978. Carl Clercks insektsamling. En orörd samling från Linnés tid. *Fauna och Flora*, Uppsala 73 : 137-143.

Skou, P., 1991. Nordens Ugler. Danmarks Dyreliv 5. 565 pp. Stenstrup.

Werneburg, A., 1864. Beiträge zur Schmetterlingskunde. Erster Band. 595 pp. Erfurt. Hugo Neumann.